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ABSTRACT

Patient noncompliance with medical advice is of major concern to physicians. Although many do not consider compliance their responsibility, research studies indicate that physicians can control many of the variables influencing compliance. Physicians' verbal and nonverbal communication habits that convey directiveness, coldness, complexity, and inflexibility can be changed to improve patient compliance. Numerous studies on verbal and nonverbal communication between patients and physicians indicate three axioms: (1) the lower the physician's communication fidelity (interruptions, use of jargon), the higher the noncompliance of the patient; (2) the lower the physician's positive effect (whether the patient "likes" the physician), the higher the noncompliance of the patient; and (3) the lower the physician's credibility, the lower the patient's compliance. In light of the deleterious impact of low communication fidelity, relational affect, and perceived credibility on the issue of compliance, efforts must be made to alter the present state of affairs. Communication oriented coursework for medical students should be augmented to include intensive study in interpersonal communication. Hospitals should offer special workshops, where doctors could be shown the barriers they create during interaction with patients and which would have a positive impact on physicians' communication quality and style. (HTH)

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COMMUNICATION AND NONCOMPLIANCE : AN AXIOMATIC FRAMEWORK

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COMMUNICATION AND NONCOMPLIANCE
AN AXIOMATIC FRAMEWORK

Patient noncompliance is of major concern to contemporary physicians. Obviously, noncompliance results in continued illness and in some cases increased morbidity and mortality (Harper, 1971). Naturally, many factors such as fear (Stimson, 1974), age (Davis, 1971), sex (Harper, 1971), and physical/social side effects of treatment or therapy seem to influence indices of compliancy. These factors are basically beyond the potential impact range of the physician. Two factors do emerge, however, as primary influencing agents which are within control of the physician: relational affect and communication fidelity. Such factors influence the physician's credibility. Both relational affect and credibility are perceptions of a physician by a patient. As such, the basis for the perceptions must ultimately be intertwined with the physician's communication behavior. The paper draws out the relationship between communication behaviors, perceptions of affect and credibility, and patient's tendency toward compliance. An axiomatic framework is presented, based upon the prevailing literature. Such a framework may provide a foundation for additional applied research and potentially as an educational base.

The doctor-patient interaction is more than an exchange of information. It is the means by which the doctor-patient relationship is established. Such relationships are inherently persuasive in nature regarding potential compliance. The traditional formalized clinical relationship maintained high levels of persuasive power until recently, but in today's complex society, that relationship appears to be diminishing in its persuasive potential. No unlike contemporary educators,

contemporary physicians must realize a "persuasive necessity" is required to achieve maximum impact potential. The overriding relational variable influencing persuasive potential regarding compliance is relational affect. The ability and desire to create positive affect is certainly influenced by tradition and the educational system (Raimbault and et al., 1975).

Physicians overestimate the compliancy of their patients (Harper, 1971) and are unable to predict which patients will follow through with orders and which patients will not. Although the physician bears the burden of full responsibility for diagnosis and therapy, compliancy is not considered as a responsibility. Harper (1971) points out that physicians are aware that many variables are related to compliance/noncompliancy. It seems that even brief research would reveal that much of the control of these variables lies in the hands of the physicians and not the patient. The physician's habits which reflect directiveness, coldness, complexity, inflexibility, etc., can be changed to improve compliancy, and the patient can neither be seen as responsible for or capable of implementing such change. The compliancy studies have been done by physicians, and perhaps even in research an optimal objectivity cannot be expected. The signs indicate significant physician impact, yet it seems even the most objective views are directed at patient culpability and accountability.

In almost all instances, the patient is seen as the one who bears the blame for noncompliance. While the physician remains the "healer" and "good doctor," the patient is referred to by terms such as noncomplier, defaulter, disobedient, and unreliable. They are said to "deviate, fail to comply, and to be uncooperative" (Stimson, 1974). The connotations of such terms are obvious. Physicians show patterns of ignoring the psycho/social aspects of the patient (Zola, 1963) yet are quick to

lay complete blame on them for noncompliance (Stimson, 1974).

The physician enters the interaction educated to treat an illness rather than a patient (Davis, 1971; Kane and Deuschle, 1967; Raimbault, et al., 1975). Numerous studies have suggested that doctors consistently ignore the concerns of the patients and focus instead upon their own (Gozzi, et al., 1969; Kane and Deuschle, 1967; Korsch and Negrete, 1972; Raimbault, et al., 1975).

In order to communicate with anyone, a certain amount of respect should exist between the sender and the receiver. It is established that the patient has respect for the physician (Skipper, et al., 1963), but there is little reciprocity. In fact, a lack of respect for the patient by the doctor has been found (Gozzi, et al., 1969). In 92 percent of 800 patients, doctors failed to call patients by name, and in 63 percent, doctors did not introduce themselves. In initial interaction, over 50 percent of physicians were found to neglect a basic introduction. Name tags were assumed to serve this purpose. A lack of respect for the patient was determined by actions such as these (Korsch, et al., 1968). Often the doctor will leave the room without indicating intentions, thus leaving patients in a state of uncertainty as to whether the doctor was finished or might return. Obviously, such "slaps in the face" will affect the patient's temperament and eventually will affect the communication between the patient and the doctor.

Physicians have been found to do the majority of the communicating. In one study of pediatricians, they were found to talk 59 percent more than the mothers (Freemon, et al., 1971). They tend to be businesslike and to give orders to patients (Freemon, et al., 1974). The physician "calls the turns," and in effect initiates the increments of inter-

action (Gozzi, et al., 1969; Korsch, et al., 1968). Such orientation as described above are detrimental to the establishment of a positive effect and often are communicated unobtrusively to patients.

The values of physicians and their patients were frequently quite different. Obviously, one plays the healer and the other is the one healed. Such difference in roles is bound to reflect the value systems of the two. All too often the disparity is very wide and as a result, physician and patient communicate from two different worlds. For example, mothers often blame themselves for their children's maladies. Their values are determined by their role of mother. When the doctor gives an explanation for an illness, the mother often rejects it because her values cause her to incriminate herself as mother, and the environment in which she has placed the child. In only a minority of cases have mothers considered the doctor's reasons as the real ones (Korsch, et al., 1968). Such blindness or perhaps better termed deafness can be termed a barrier to communication. Clearly the physician and patient are not in agreement about the message.

It has been shown that the patient's understanding and general medical knowledge affects communication with the physician and the responses to medical advice in a significant manner (Korsch, et al., 1968). Lack of knowledge may very well lead to communication apprehension on the part of the patient. And as was explained earlier, because physicians underestimate the patient's potential to understand the information concerning their illness, they often withhold information which could aid in increasing the effectiveness of communication.

A rationalization adhered to by many doctors is that ineffective treatment of noncompliance cannot be improved because doctors just do

not have the time to spend with each patient. The supposition is that if interaction time were longer, the other factors causing noncompliance could be alleviated or eliminated (Korsch, et al., 1968). Unfortunately, there is no foundation for this assumption. With 800 patients, interaction time ranged from 2 to 45 minutes. However, shorter interaction time has been associated with higher compliance (Freemon, et al., 1971). Perhaps this results from the directive nature of physicians. It has been suggested that a directive interviewer loses flexibility in interaction as time increases (Hawes, 1972).

The degree of warmth exhibited by the physicians was also found to be correlated to compliance (Francis, et al., 1969 ; Freemon, et al., 1971; Harper, 1971, Korsch, et al., 1968). Davis and Eichhorn (1963) indicate that the more formal interaction, the higher the level of compliance. However, the majority of studies seem to show a positive correlation between physician warmth and patient compliance. Lack of warmth has a negative effect on compliance (Francis, et al., 1969), yet less than 6 percent of a doctor's communication in interaction between pediatricians and mothers can be considered friendly or warm (Freemon, et al., 1971). Of mothers who felt doctors had positive feelings, 39 percent were rated as highly compliant when the doctors projected a negative impression. An increased degree of interpersonal compatibility enhances compliance (Harper, 1971).

Francis, et al. (1969, found in a study of 216 patients that as patient satisfaction with physicians decreased, so did compliance. Those patients with high satisfaction had 53.4 percent compliance, whereas those with high dissatisfaction had 16.7 percent compliance. When satisfaction decreased because of the physician's negative affect in an

interaction, compliance also decreased (Freemon, et al., 1971). When 82 percent were satisfied, 53 percent were compliant, whereas 32 percent were rated highly compliant when satisfaction decreased to 63 percent. It is interesting to note that variables found to increase satisfaction are many of the same ones that would be listed as having a corresponding correlation to compliance (Korsch, et al., 1968; Liptak, et al., 1977). Numerous studies have demonstrated the association between positive affect, satisfaction, and compliance (Korsch, et al., 1968).

Concerns with an effect-oriented relationship between physician and patient evoke such questions as, "Will the physician's judgment be hindered?." "Will more times be consumed in individual visits and return visits?," and "Are physicians incapable of developing such relationships in the abbreviated time available?" We suggest the answer to all three questions is NO! An affect relationship between physician and patient is a function of the verbal and non-verbal communication skills of the physician relative to the physician's orientation toward the patient. Communication style and communication fidelity are inextricably intertwined.

While communication associated with relational affect will decrease noncompliancy resulting from a patient's dislike of a physician, a second cause of noncompliancy is equally evident. It is not surprising that the complexity of physician's orders also affects compliance (Francis, et al., 1969). Doctors often give orders which include several prescriptions as well as treatments. When this is done, compliance has been found to decrease to 25 percent. Harper (1961) suggests limiting the specific recommendations offered at any one sitting. This is only logical; a complex order should be harder to remember. Patients presented with five, ten, or fifteen statements are actually expected to forget two, five, and

fifteen statements respectively (Ley, et al., 1973).

Complexity is also associated with the physician's tendency to utilize jargon. In over one-half of 800 cases, difficult technical language used by the doctor was cited as a barrier to communicate (Korsch, et al., 1968). Research by others shows that patients do indeed consider the medical terminology a hindrance (Kane and Dueschle, 1967; Skipper, et al., 1968). Only slightly more than half of 50 common medical words are found to be generally understood in a southwestern population (Samora, et al., 1961). Patients requested that the doctor speak "English" rather than the jargon of the medical world (Gozzi, et al., 1969). The effect of using such "foreign language is often complete misinterpretation of the message. For example, "incubation period" was interpreted as the length of time the mother was required to be in bed (Korsch, et al., 1968).

Physicians tend to give orders and ask questions in a very complex way (Gozzi, et al., 1971). Not only the wording, but also the manner in which orders and questions are presented is very complex. The treatment prescribed often includes several different factors and it is difficult for the patient to grasp all of it at once. The physician also tends to use a "machine gun" strategy when asking questions. He asks a series of questions without pausing for answers. The patient either becomes confused or answers only those questions asked last (Gozzi, et al., 1969). Ley, et al. (1973), conducted studies which demonstrate that the patient will forget what doctors say because of the number of things said at one time and because of the manner in which they are presented.

When studying communication, one will find most vital of the effective relaying of messages is an analysis of the receiver and receiver

perceptions. This frame of reference can then be used to form the messages in a manner so that the patient can have a comparable meaning, if not the same as the one intended by the physician. Doctors have shown a lack of concern for the patient's psycho/social feelings (or frame of reference). They tend to look only at the surface and not beneath it (Zola, 1963). Listening skills play a significant role in enabling a physician to see "where the patient is coming from." Gozzi, et al. (1969), suggests further that communication gaps arise when physicians knowingly or unknowingly demonstrate they are not listening. All of the patient's input should be considered, as vague or generalized as it may be. Surprisedly, physicians themselves have admitted the need to improve the situation (Kane and Deuschle, 1967).

In a study of 17 patients suffering from Turner's syndrome, recorded interviews showed that the behavior of interrupting the patient was consistent by physicians (Raimbault, et al., 1975). In many instances, the patients were interrupted while giving very valid input--in fact, the same input which was often requested by the physician later in the conversation. This suggests that the physician is a very ineffective receiver. Further analysis to determine actual causes for the interruptions was not done. Korsch, et al. (1968), also found that physicians who fail to heed the statement of their patients often cause patients to cease trying to communicate. The patient enters the reciprocal orientation interaction desiring to conform to the physician's expectations (Tagliacozzo and Mauksch, 1972). Their communication becomes a series of "yeses" or "humms" or even silence.

The conclusion that quality and effectiveness of communication is correlated to patient compliance appears stable. Factors such as

complexity of order, the underestimation of patient's knowledge of medicine, and general failure on the part of physicians to consider the patient's perceptions have a negative effect on both compliance and the effectiveness of communication. Gozzi, et al. (1969), found that in 44 visits where patients were noncompliant, 60 percent had been visits considered "high-block." A high-block visit was categorized as a visit in which over 14 percent of the physician's statements in interaction were in categories such as using jargon, completely interrupting to the point of cutting the other off, failure to respond to a question, and deprecating the patient.

Following is a series of axiomatic statements followed by several propositions. The validity of the axiomatic statements lies in the literature reviewed above. The propositions represent only a few of the specific deductions which may be made. A detailed expansion of such a framework and its application to medical education policy is a prerequisite to increasing the physician's potential to impact compliancy.

Axiom 1: The lower the communication fidelity, the higher the noncompliance.

Axiom 2: The lower the positive effect, the higher the noncompliance.

Axiom 3: The lower the physician's credibility, the higher the noncompliance.

Axiom 1 is based on communication fidelity defined as the degree of similarity in mental images between two or more individuals following a communication transaction and is relatively self-evident. Should the patient, for example, not "understand" the physician's advice it would be impossible to comply with such advice. In a similar vein, should the patient believe the physician doesn't really care, the potential to not comply also increases.

Axiom 2 is related to the above in that the less the patient "likes"

or has positive feelings about the physician the greater the potential to disregard information and/or instructions given. This is particularly the case in light of escalating costs and the increasing orientation toward "shopping around."

Axiom 3 is interrelated with both of the above in the sense that should a physician be perceived as not credible, the physician's instructios will also be so perceived. Further recent research has indicated the credibility goes beyond mere projections of competence to include perceptions of composure, character, sociability, extroversion and dynamisn (McCroskey, 1966). Thus the relationship between credibility and affect becomes clear.

From these axioms a number of communication based propositional statements may be derived.

Proposition 1: The greater the use of jargon, the lower the communication fidelity, affect, and credibility.

Proposition 2: The greater the message complexity, the lower the communication fidelity, affect, and credibility.

These two propositions are primarily oriented toward the physician's verbal skills. Medical terminology is a culture specific language in itself. While the public's knowledge of medical terms has probably increased since 1961, it certainly has not gained the precision held by medical practitioners. Jargon and complexity can result in perceptions associated with deception, lack of concern, and self indictment which can in turn negatively influence the variables under consideration.

Proposition 3: The greater the number of interruptions, the lower the communication fidelity, affect, and credibility.

Proposition 4: The less respect for the patient, the lower the communication fidelity, affect, and credibility.

Proposition 5: The greater the value disparity, the lower the communication fidelity, affect, and credibility.

Proposition 6: The less the overlap of attitudinal frame of reference, the lower the communication fidelity, affect, and credibility.

These propositional statements while influenced by verbal communication are more directly impacted by the nonverbal communication of the physician and the environment. Negative perceptions are formed when neutral orientations are made especially during high stress. The greater the feelings of inadequacy, the more pronounced the negative orientations and the potential to not comply.

In light of the deleterious impact of low communication fidelity, relational affect, and perceived credibility on the issue of compliance, efforts must be made to alter the present state of affiars. Such efforts may only occur through patients but also education specifically focussed upon verbal and nonverbal communication skills.

Medical students have inadequate training in interviewing (Davis, 1971). Communication-oriented coursework should be augmented to include intensive study in interpersonal communication. As the medical profession is one of constant contact and communication with others, it could be nothing but relevant to what is in store for the new doctors. If the medical students were able to obtain their practice in communicating effectively during medical school, perhaps they would begin their internships and practices with considerable effectiveness in communication.

As for physicians in practice, hospitals should hold special workshops in which doctors could be shown the barriers they create in their own interaction with patients. Insights could be provided which would

positively impact the physician's communication quality and style. In combination with other strategies found to have moderate success, physicians communication quality and style. In combination with other strategies found to have moderate success, physicians will find better communication skills to be the key to higher patient satisfaction and compliance.

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